REMARKS/ARGUMENTS

Status of the claims

After entry of this amendment, claims 1, 4,, 7-9, 11-14, 17-22, and 25-29 are pending in this application. Claims 2-3, 6, 10, 15-16, and 23-24 were previously withdrawn. Claim 5 has been canceled without prejudice to future prosecution. Claims 1 and 7 have been amended to clarify that they are directed to elected subject matter. Claim 7 has also been amended to add a sequence identifier. Thus, no new matter has been added by these amendments.

The present invention

The present invention is directed to methods of targeting a compound to a cell using a mutant protective antigen. More particularly, the invention is direct to targeting a compound to a cell over-expressing a plasminogen activator, or a plasminogen activator receptor by administering to the cell (1) a mutant protective antigen protein comprising a plasminogen activator-recognized cleavage site in place of the native protective antigen furin-recognized cleavage site, wherein the mutant protective antigen is cleaved by a plasminogen activator; and (2) a compound comprising a lethal factor polypeptide comprising a protective antigen binding site; wherein the lethal factor polypeptide binds to cleaved protective antigen and is translocated into the cell, thereby delivering the compound to the cell.

Objections to the claims

Claims 1 and 7 have been objected to as containing non-elected subject matter. Claim 7 has been further objected to as omitting a sequence identifier. Claims 1 and 7 have been amended to delete the non-elected subject matter. Claim 7 has also been amended to add a sequence identifier for the amino acid sequence recited in the claim. Accordingly, Applicants respectfully request withdrawal of this objection.

Claim Rejections Under 35 U.S.C. § 112, first paragraph

Claims 1, 4-5, 7-9, 11-14, 17-22, and 25-29 are rejected under 35 U.S.C. § 112, first paragraph as alleged nonenabled. In making the rejection, the Examiner acknowledges that the specification enables a method of targeting a compound to a cancer cell over-expressing a plasminogen activator or plasminogen activator receptor by administering a mutant protective antigen comprising a plasminogen activator cleavage site comprising SEQ ID NO:5, wherein the plasminogen activator is a u-PA, but alleges that the specification does not enable a method of targeting a compound to a cancer cell over-expressing a plasminogen activator or plasminogen activator receptor by administering a mutant protective antigen comprising a plasminogen activator cleavage site comprising SEQ ID NO:5, wherein the plasminogen activator is a t-PA.

A particular claim is enabled by the disclosure in an application if the disclosure, at the time of filing, contains sufficient information so as to enable one of skill in the art to make and use the claimed invention without undue experimentation. *See* MPEP §2164.01, citing *In re Wands*, 8 USPQ2d, 1400 (Fed. Cir. 1988).

As an initial matter, Applicants note, that the specification enables, *inter alia*, methods of targeting a compound to a cell over-expressing a matrix metalloproteinase, a plasminogen activator or plasminogen activator receptor-recognized cleavage site in place of the native protective antigen furin-recognized cleavage site, wherein the mutant protective antigen is cleaved by a matrix metalloproteinase or a plasminogen activator. For example, the specification is replete with guidance and working examples such that one of skill in the art to could generate and use the mutant protective antigens in methods of targeting a compound to a cell using the mutant protective antigens.(*see, e.g.*, page 18, line 16 to page 23, line 3 and page 34, line 8 to page 55, line 15).

However, in response to the restriction requirement of August 25, 2004, Applicants elected the presently claimed invention, reserving the right to pursue the non-elected subject matter. Accordingly, to expedite prosecution, independent claim 1 has been amended for clarity so that the claim and claims dependent on it are directed to the elected subject matter, *i.e.*, a therapeutic method of targeting a native lethal factor to a cell overexpressing a plasminogen activator or a plasminogen activator receptor, wherein the plasminogen activator is a u-PA.

Accordingly, Applicants respectfully request withdrawal of this rejection under 35 U.S.C. § 112, first paragraph.

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 4-5, 8, 11-14, 18-22, and 25-29 are rejected as allegedly unpatentable over U.S. Patent No. 5,677,274 (" Leppla *et al.*") in view of U.S. Patent No. 5,817,771 (Bayley *et al.*). For the reasons set forth below, this rejection is overcome.

As set forth in M.P.E.P. § 2143, "[t]o establish a *prima facie* case of obviousness, *three* basic criteria must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art reference (or references when combined) must teach or suggest all the claim limitations. All three elements set forth above must be present in order to establish a *prima facie* case of obviousness.

Moreover, as set forth in 35 U.S.C. § 103(c), and clarified in MPEP § 706.02(l)(2)(I),

> (c) subject matter ... which qualifies as prior art only under one or more subsections (e), (f), and (g) of section 2 of this title, shall ***not*** preclude patentability where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. (emphasis added)

As set forth in MPEP § 706.02(l)(2)(II), a statement by an attorney or agent of record that the application and the reference were, at the time the invention was made, owned by, or subject to an obligation of assignment to the same person is sufficient to establish common ownership.

Applicants note that both the instant application and Leppla *et al.* were, at the time the invention was made, both owned by and subject to an obligation of assignment to the same person, *i.e.*, The Government of the United States as Represented by the Secretary of the

Department of Health and Human Services. Therefore, Leppla *et al.* is not a reference that is properly be cited against the instant application.

Bayley is cited merely as a secondary reference and does not disclose or suggest all of the elements of the presently claimed invention.

Accordingly, Applicants respectfully request withdrawal of this rejection under 35 U.S.C. § 103.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is urged. If the Examiner believes a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at 415-576-0200.

Respectfully submitted,

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